USPTO Customer No. 25280
Serial No: 10/679,217

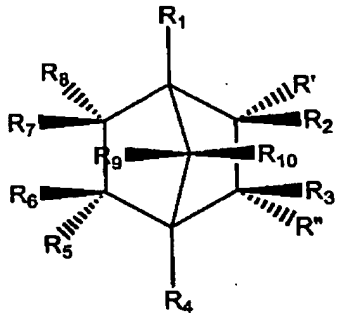
Inventor(s): Mannion et al
Case No: 5646

IN THE CLAIM

1. (Currently Amended) An additive formulation comprising: ~~an anti-caking agent and a small size nucleating compound, said composition further comprising~~

(a) at least one nucleating compound conforming to the structure of Formula (I)

(I)



wherein R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8, R_9, and R_{10} are independently selected from the group consisting of hydrogen, C_1-C_9 alkyl, hydroxy, C_1-C_9 alkoxy, C_1-C_9 alkyleneoxy, amine, and C_1-C_9 alkylamine, halogen, phenyl, alkylphenyl, and geminal or vicinal carbocyclic having up to nine carbon atoms;

wherein R' and R" are the same or different and are individually selected from the group consisting of hydrogen, C_1-C_{30} alkyl, hydroxy, amine, polyamine, polyoxyamine, C_1-C_{30} alkylamine, phenyl, halogen, C_1-C_{30} alkoxy, C_1-C_{30} polyoxyalkyl, and esters; and

wherein said nucleating ~~or~~ compound is provided in the form of particles, said particles having a D95 size range of less than or equal to ~~about~~ 94 micrometers at a mean volume diameter (MVD) of about 16; and

(b) an anticaking agent, said ~~wherein said~~ anti-caking agent comprising es one or more of a group consisting of: silica gel; talc, dihydrotalcite; and metal carboxylates ~~acids~~; and

wherein said anticaking agent is provided in a weight ratio of anticaking agent to nucleating compound of from about 10:90 to about 30:70.

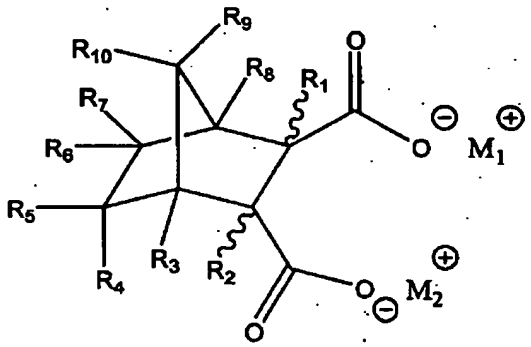
2. (Currently Amended) An additive formulation, wherein said additive formulation comprises in part:

(a) an anti-caking agent and

(b) a ~~small size~~ nucleating compound, wherein

said small size nucleating compound conforms ~~ming~~ to the structure of:

~~Formula (II)~~



wherein M_1 and M_2 are the same or different and are independently selected from the group consisting of metal ~~or organic~~ cations; and

R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8, R_9, and R_{10} are independently selected from the group consisting of hydrogen, C_1-C_9 alkyl, hydroxy, C_1-C_9 alkoxy, C_1-C_9 alkyleneoxy, amine, and C_1-C_9 alkylamine, halogen, phenyl, alkylphenyl, and C_1-C_9 carbocyclic

wherein said metal cations are selected from the group consisting of calcium, strontium, barium, magnesium, aluminum, silver, sodium, lithium, rubidium, and potassium.

wherein said nucleating ~~or~~ compound is provided in the form of particles, said particles having a D95 size range of less than or equal to ~~about~~ 94 micrometers at a mean volume diameter (MVD) of about 16; and

wherein said anti-caking agent comprises one or more of a group consisting of: silica gel; talc, dihydrotalcite; and metal carboxylates ~~acids~~; and

wherein said anticaking agent is provided in a weight ratio of anticaking agent to nucleating compound of from about 10:90 to about 30:70.

3. (Cancelled)

4. (Currently Amended) The additive formulation of Claim 2 ~~3~~ wherein said metal cation is calcium.

5. (Currently Amended) The additive formulation of Claim 3 [4] wherein said metal cation comprises sodium.

6. (Cancelled).

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Previously Amended) The formulation of Claim 2 wherein said anticaking agent comprises a silica gel.

12. (Currently Amended) A thermoplastic article comprising the additive formulation of Claim 1 , said article further comprising at least one polyolefin.

13. (Currently Amended) A thermoplastic article comprising the additive formulation of Claim 2, said article further comprising and at least one polyolefin.

14. (Cancelled).

15. (Cancelled).

16. (Previously Amended) The additive formulation of claim 1 wherein said small size nucleating compound comprises disodium bicyclo [2.2.1] heptane-2,3-dicarboxylate.

17. (Previously Amended) The additive formulation of claim 11 wherein said small size nucleating compound comprises disodium bicyclo [2.2.1] heptane-2,3-dicarboxylate.

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Previously Presented) The additive formulation of claim 1 wherein said particles comprise a D95 size of less than or equal to about 10 microns at a mean volume diameter (MVD) of about 7.5.

22. (Currently Amended) The additive formulation of claim 21 wherein said anticaking agent and small size nucleating ~~or~~ compound are provided in a ratio of nucleating ~~or~~ compound to anticaking agent of about 80:20.

23. (Currently Amended) The additive formulation of claim 21 wherein said nucleating ~~or~~ compound and anticaking agent are provided in a ratio of nucleating ~~or~~ compound to anticaking agent of about 80:20.